

AMENDMENTS TO THE SPECIFICATION:

Please amend the title to read ~~OPTICAL PICKUP LENS, MOLDED OPTICAL COMPONENT, HANDLING METHOD, AND MOLD FOR OPTICAL COMPONENT ASSEMBLING METHOD~~--.

Please amend the specification as follows:

Please replace the paragraph on page 40, beginning with "Further" with the following amended paragraph:

Further, the connecting section is in a shape of a square in the example shown in Fig. 8, but it is also possible to chamfer or to round the corner of the connecting section at need. If the extent of chamfering is made to be different depending on each corner, this may be utilized for adjusting the lens direction. Even when the ~~rectangle~~ shape of the connecting section is changed, as occasion demands, to ~~a shape of a rectangle, a shape of a trapezoid, a shape of a~~ parallelogram, ~~[[and]]~~ or a five-or-more-cornered rectangular shape, these shapes are naturally within a scope of the invention.

Please replace the paragraph on page 46, beginning with "Fig. 11" with the following amended paragraph:

Fig. 11 is a sectional view of a certain molding site (including the fixed side and movable side) that is viewed in the direction 1 in the metal mold. The numeral 31 represents a runner that is the first resin inflow path, 32 represents a gate that is the second resin inflow path and 33 represents an optical functional section molding ~~section~~ cavity. A cross-section of the first resin inflow path is circular and a cross-section of the second resin inflow path is rectangular as illustrated by the resultant molded product in Fig. 12.

Please replace the paragraph on page 47, beginning with “As” with the following amended paragraph:

As is known commonly, an inner surface of the metal mold, namely, the molding surface has surface finish conducted by any of various types of processing methods. The optical functional section molding ~~section~~ cavity, in particular, can be structured so that not only an aspheric surface but also diffractive ring-shaped zones, phase-shifted ring-shaped zones and optical path differences provided ring-shaped zones may be formed, and in that case, a cutting tool having an extremely sharp edge is used to machine the metal mold. As a material for the metal mold, appropriate materials including plated iron can be selected.

Please replace the paragraph on page 47, beginning with “Though” with the following amended paragraph:

Though a section of the first resin inflow path (runner) is ~~circular~~ cylindrical and has a uniform diameter in the drawing, a diameter and a shape of this runner section do not always need to be uniform. With respect to a cross-sectional area and a shape, a diameter, for example, may either be changed from ~~6 to 4~~ 6mm to 4mm discontinuously or be changed from ~~6 to 4~~ 6mm to 4mm continuously to become a tapered shape. Further, a shape of a cross-section may suffer a change such as a change from a circle to a rectangle.

Please replace the paragraph on page 48, beginning with “Then” with the following amended paragraph:

Then, the melted resin flows in the second resin inflow path 32 from the first resin inflow path 31, and further flows in the optical functional section molding ~~section~~ cavity 33 through the second resin inflow path 32, and is cooled, thus, molding is completed and the metal mold is opened.

Please replace the paragraph on page 49, beginning with “An” with the following amended paragraph:

An optical molded component P formed by metal mold M shown in Fig. 10 is formed to be in a shape shown in Fig. ~~[[10]]~~ 12.

Please replace the paragraph on page 49, beginning with “With” with the following amended paragraph:

With respect to each section formed by metal mold M in this case, a diameter of supporting shaft section 41 is 5 mm, a shape of a cross-section of connection section 42 is a rectangle whose one side is 0.5 - 1 mm and a diameter of optical functional section 43 is 1 mm - 1.5 mm.

Please replace the paragraph on page 49, beginning with “Therefore” with the following amended paragraph:

Therefore, it is extremely difficult to handle by holding directly the optical functional section ~~[[3]]~~ 43 that represents a lens site. However, it is easy to hold supporting shaft section 41 that is formed by the first resin inflow path 31 (runner) by handling it as a reference, and other operations can be conducted satisfactorily.

Please replace the paragraph on page 49, beginning with “To” with the following amended paragraph:

To be concrete, the supporting shaft section 41 is handled as a reference for various operations, including holding (grasping) and conveyance in the case of taking out the molded component by opening the metal mold, holding (grasping), conveyance, positioning and attaching (or incorporating or assembling) to another member after taking out, and holding (grasping) for cutting.

Please replace the paragraph on page 49, beginning with “The” with the following amended paragraph:

The molded component formed by the metal mold M is cut at the position shown by AA' in Fig. 11.

Please replace the paragraph on page 51, beginning with “Fig.” with the following amended paragraph:

Fig. 13 shows variations of cross-sectional shapes for the first resin inflow path 31 (runner) shape. Fig. 13 (a) shows a circle, Fig. 13 (b) shows a semicircle and Fig. 13 (c) shows a trapezoid that is symmetrical laterally. When an asymmetric shape like Fig. 13 (b) or Fig. 13 (c) is used, it is possible to prevent that supporting shaft section 41 rolls down when it is placed on the stand. Further, in the case of registering, the shape itself serves as an index, which is an advantage.

Please replace the paragraph on page 51, beginning with “Fig. 13 (d)” with the following amended paragraph:

Fig. 13 (d) shows a shape of a cross-section in which a rectangular portion (a trapezoid portion that is symmetric laterally) is provided on a chord of the semicircle. Due to this shape, stiffness is enhanced, rotation can be prevented and positioning can be conducted easily.

Please replace the paragraph on page 52, beginning with “Fig. 13 (e)” with the following amended paragraph:

Fig. 13 (e) shows a shape of a cross-section in which a plurality of trapezoids each being symmetric laterally are combined. Due to this shape, stiffness is enhanced, rotation can be prevented and positioning can be conducted easily.

Please replace the paragraph on page 52, beginning with “Optical” with the following amended paragraph:

The cross sectional shape of optical ~~Optical~~ molded component P₁ shown in Fig. 13 (f)₁ is one wherein parallel flat portion 41a that is almost in parallel with a chord section is formed on a part of an arc section of supporting shaft section ~~[[1]]41~~. Prevention of its rotation is possible, and positioning thereof is easy. Further, by making this parallel flat portion 41a to be a fixed side of metal mold M, and by making the chord section to be a movable side of the metal mold M, the optical molded component P can be removed easily from the fixed side after molding by the metal mold M. Due to this, deformation of supporting shaft section ~~[[1]]41~~ caused in the course of removing can be controlled, and excellent optical molded component P can be obtained.

Please replace the paragraph on page 55, beginning with “When considering” with the following amended paragraph:

When considering the relationship between the optical functional section and an optical axis, shapes of Figs. 13 (a) - 13 (g) can also be applied, without being limited to the shape of Fig. 13 (b). Namely, in the case of a trapezoidal shape that is symmetric laterally, a line that is perpendicular to ~~parallel two~~ the two parallel sides of the trapezoid has only to agree with an optical axis of the optical functional section.

Please replace the paragraph on page 55, beginning with “Further” with the following amended paragraph:

Further, as another improvement, it is also possible to provide a three-dimensional distinguishing mark on supporting shaft section ~~[[1]]~~ 41 through molding as shown in Fig. 14. In this case, the first resin inflow path 31 (runner) of the metal mold, as illustrated in Fig. 17, is processed in advance so that the distinguishing mark may be formed thereon.

Please delete the paragraph on page 56, beginning with “Now”.

Please replace the paragraph on page 56, beginning with “In” with the following amended paragraph:

In the example as shown in Fig. 14, there are formed bar code and letters. A direction, a size and a shape of these distinguishing ~~[[mark]]~~ marks can be established independently.

Please delete the paragraph on page 56, beginning with "Further, as".

Please add the following paragraph, which combines the deleted paragraphs from page 56, above the paragraph beginning with "Further as another improvement" on page 58:

Further, as shown in Figs. 18 (c) and 18 (d), index portion 42a that is based on a distance from the center of an optical axis of the optical functional section 43 may be provided on connecting section 42. Now, as shown in Figs. 18 (c) and 18 (d), index portion 42a may be provided on connecting section 42. In this case, gate 32 of the metal mold M has only to be machined in advance so that the index portion 42a may be formed on connecting section 42. Fig. 18 (d) shows that the index portion 42a is formed by cutting into the connecting section 42, while, Fig. 18 (c) shows that the index portion 42a is formed to be protruded from the connecting section 42. Further, Fig. 18 (d) shows that the index portion of 42a is formed to be in the shape of a straight line that extends in the lateral direction of the connection section 42. Fig. 18 (c) shows that the index portion 42a is formed to be a locus of a circle having a prescribed radius whose center is on the optical axis. Due to this, it is possible to cut based on the index portion 42a when cutting the connecting section 42.

Please replace the paragraph on page 60, beginning with "As" with the following amended paragraph:

As an example therefore, there is given an occasion wherein the first resin inflow path 31 is processed to provide an information recording site on supporting shaft section 41 as shown in Fig. 19. In this case, it is preferable that an area representing a rough surface is formed so that an operation to give information and a position to give information may be distinguished.

Incidentally, by processing the gate section ~~[[31]]~~ 32, the information may be provided on the connecting section 42.

Please replace the paragraph on page 62, beginning with “In the invention of Item (2-6)” with the following amended paragraph:

In the invention of Item (2-6) and Item (2-52), there can be formed a molded component that is stable when it is placed, because a cross-section of the supporting shaft section is formed to be almost trapezoidal.

Please replace the paragraph on page 62, beginning with “In the invention of Item (2-7)” with the following amended paragraph:

In the invention of Item (2-7) to (2-10) and Item (2-53), there can be formed a molded component that is stable when it is placed, because a cross-section of the supporting shaft section is formed to be almost semicircular.

Please replace the paragraph on page 66, beginning with “In the invention of Item (2-43)” with the following amended paragraph:

In the invention of Item (2-43), the optical molded component can be ~~[[surly]]~~ surely guided in a production line in a factory, therefore, it is very advantageous for the actual use of it.